

Minutes for 2nd TC304 meeting (by Email)

Dates: 10 Nov 2010 to 17 Nov 2010

Present: TC304 members

1. Objectives of TC and Terms of Reference for TC304 (for information)

Objectives of a technical committee are to:

Objective 1

Disseminate knowledge and practice within the TC's subject area to the membership of the ISSMGE.

Objective 2

Establish guidelines and technical recommendations within the TC's subject area.

Objective 3

Assist with technical programs of international and regional conferences organized by the ISSMGE.

Objective 4

Interact with industry and overlapping groups working in areas related to the TC's specialist area

Terms of reference for TC304 (2010-2013)

The goals of TC304 are to promote and enhance professional activities and education in geotechnical and geo-environmental engineering, in areas related to:

Geostatistics and probabilistic site characterisation

Quantification of uncertainties in performance prediction

Reliability-based design

Risk-based decision analysis

Calibration of LRFD-type geotechnical design codes

Project risk management

2. Composition of TC304 (for information)

Executive group:

Chair: KK Phoon (Singapore)

Vice Chair: Gordon Fenton (Canada)

Secretary: JY Ching (Chinese Taipei)

Members:

a. Vaughan Griffiths, USA

b. Hongwei Huang, China

c. Lars Olsson, Sweden

d. Martin van Staveren, The Netherlands

e. Greg Baecher, USA

f. Ken Ho, Hong Kong, China

g. Mark Jaksa, Australia

h. Farrokh Nadim, Norway

TOC Liaison: Mark Cassidy

Members nominated by national societies (total = 26) – **refer to full list in separate attached EXCEL file**

3. Taskforce activities

- Please refer to tentative actionable items listed in the following tables. Those items are based on the Minutes of 1st TC304 meeting (see attached). We have prepared specific questions for some items. We need your inputs for those questions.
- Besides the tentative actionable items, please feel free to propose new items. Flag your proposed actionable items with reference to the task forces so that task force leaders can take note of your willingness to participate. Task force leaders would get in touch with you thereafter.
- Nothing is cast in stone. If there are specific ideas you would like to champion beyond the proposed 6 task forces, do feel free to offer your suggestions.

2.1 TF1: Interaction with industry and education (Farrokh Nadim, Norway)

Actionable items	Responses
1. Email list of upcoming conferences and ask members for short course proposals (Farrokh)	
2. Development of a 2-day geotechnical risk management course (Martin)	Timo has materials for courses on probabilistic design, risk and reliability assessment
3. Teaching resources (Mark)	Timo, Leena, and Jianye are willing to assist Mark.
4. Coordinate a short course with CISM (Vaughan)	
5. Compile a list of short courses in near future for posting on TC304 website (Jianye)	

2.2 TF2: Compilation of guidelines and other technical resources (Vaughan Griffiths, USA)

Actionable items	Responses
1. Collect relevant guidelines and risk-related international resources from industry, government and academe for TC304 website (Vaughan): <ul style="list-style-type: none">• Recommended reading	Pavlos provided 24 entries and 3 links: 1. Babendererde, S., E. Hoek, et al. (2004). Geological risk in the use of TBMs in heterogeneous rock masses - The case of "Metro do Proto" and the measures adopted. Geotechnical Risks in Rock Tunnels. Portugal: 1-16. 2. Building Research Establishment, MA Smith Environmental Consultancy, et al. (2001). Assessment and Management of Risks to Buildings, Building Materials and Services from Land

<p>list</p> <ul style="list-style-type: none"> • General reading list 	<p>Contamination. Bristol, Environment Agency: 100.</p> <p>3. Butler, B. and J. Petts (2000). Land Contamination Risk Assessment Tools: An evaluation of Some of the Commonly Used Methods. <u>R&D Technical Report P260</u>. Bristol, The Environment Agency:131.</p> <p>4. Carey, M. A., P. A. Marsland, et al. (2006). Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination. Bristol, Environment Agency: 129.</p> <p>5. Charles, J. A. (2004). Building on brownfield sites: reducing the risks. <u>GBG 59 Part 2</u>. London, Building Research Establishment: 8.</p> <p>6. Charles, J. A., R. C. Chown, et al. (2002). Brownfield sites: ground-related risks for buildings. London, BRE Centre for Ground Engineering and Remediation: 52.</p> <p>7. Department for Environment Food and Rural Affairs (2006). Assessing Risks From Land Contamination - a Proportionate Approach Soil Guideline Values the Way Forward, DEFRA: 92.</p> <p>8. DETR, Environment Agency, et al. (2000). Guidelines for Environmental Risk Assessment and Management. London: 89.</p> <p>9. Environment Agency (2003). Principles for Evaluating the Human Health Risks from Petroleum Hydrocarbons in Soils: A Consultation Paper. Bristol, Environment Agency,: 43.</p> <p>10. Environment Agency (2004). Environment Agency guidance on assessment of risks from landfill sites, Environment Agency: 82.</p> <p>11. Environment Agency (2009). Flood and coastal risk management in England. A long-term investment strategy. Bristol, Environment Agency: 24.</p> <p>12. Environment Agency (2009). Flooding in England: A National Assessment of Flood Risk. Bristol, Environment Agency: 36.</p> <p>13. Hoek, E. and A. Palmeiri (1998). <u>Geotechnical risks on large civil engineering projects</u>. International Association of Engineering Geologist Congress, Vancouver, Canada.</p> <p>14. Kalaiarasan, M., R. Balasubramanian, et al. (2009). "Traffic-generated airborne particles in naturally ventilated multi-storey residential buildings of Singapore: Vertical distribution and potential health risks." <u>Building and Environment</u> 44(7): 1493-1500.</p> <p>15. Kalin, R. M. (2004). "Engineered passive bioreactive barriers: risk-managing the legacy of industrial soil and groundwater pollution." <u>Current Opinion in Microbiology</u> 7(3): 227-238.</p> <p>16. Komnitsas, K. and K. Modis (2006). "Soil risk assessment of As and Zn contamination in a coal mining region using geostatistics." <u>Science of the Total Environment</u> 371: 190-196.</p> <p>17. Milloy, C. J. and N. J. O'Riordan (1995). Risk assessment for methane and other gases from the ground. London, Construction Industry Research and Information Association: 70.</p> <p>18. Ministry for the Environment (2004). Contaminated Land Management No. 3: Risk Screening System. Wellington, Ministry for the Environment, New Zealand: 41.</p>
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	<p>19. Rudland, D. J., R. M. Lancefield, et al. (2001). Contaminated land risk assessment: A guide to good practice. <u>CIRIA C552</u>. London, CIRIA: 162.</p> <p>20. Total Petroleum Hydrocarbon Criteria Working Group (1999). <u>Human Health Risk-Based Evaluation of Petroleum Release Sites: Implementing the Working Group Approach</u>. Massachusetts, Amherst Scientific Publishers.</p> <p>21. U.S. Army Corps of Engineers (1988). Engineering and Design RISK-BASED ANALYSIS FOR FLOOD DAMAGE REDUCTION STUDIES. <u>Engineer Manual</u>. Washington, U.S. Army Corps of Engineers: 63.</p> <p>22. U.S. Army Corps of Engineers (1996). Environmental Quality RISK ASSESMENT HANDBOOK VOLUME II: ENVIRONMENTAL EVALUATION. <u>Engineer Manual</u>. Washington, U.S. Army Corps of Engineers: 165.</p> <p>23. U.S. Army Corps of Engineers (1999). Environmental Quality RISK ASSESMENT HANDBOOK VOLUME I: HUMAN HEALTH EVALUATION. <u>Engineer Manual</u>. Washington, U.S. Army Corps of Engineers: 99.</p> <p>24. Wilson, S. A. and G. B. Card (1999). "Reliability and risk in gas protection design." The U.S. Army Corps of Engineers manuals can be downloaded from the following link: http://140.194.76.129/publications/eng-manuals/ Manuals from the U.K. Environment Agency can be downloaded from the following link: http://www.environment-agency.gov.uk/research/planning/40385.aspx Professor's Evert Hoek research papers and books can also be downloaded free of charge at: http://www.rocscience.com/education/hoek_corner For C.I.R.I.A. documents please e-mail me, this are proprietary documents, but I assume for the purposes of this committee it would not be a problem to provide you with a copy.</p> <p>Timo provided 1 link: JCSS publications on risk management in engineering (http://www.jcss.ethz.ch/publications/publications.html)</p> <p>Shin-Ichi is willing to contribute.</p>
2. Bibliography database	<p>a. Enter your papers into the following database: http://www.geoengineer.org/databases/ Nick asked "why don't we enter them onto the TC304 website 'publications' page?" Jianye will add database link to TC304 website</p>

2.3 TF3: Coordination with broader risk community: (Martin van Staveren, The Netherlands)

Actionable items	Responses
1. Translate practice guide on geotechnical risk management published by Deltares	

in Dutch to English for dissemination (Martin)	
2. Translate the generic risk management principles of ISO-31000 into practical geo-principles (Martin, Lars)	
3. Establish a link between the ISSMGE and the JCSS through TC304 (proposed by Timo, seconded by Nick)	
4. Promote ways of integrating geotechnics into wider risk analyses. (Nick)	

2.4 TF4: Communication/dissemination - (Jianye Ching, Chinese Taipei)

Actionable items	Responses
1. Set up TC304 website and circulate URL to members (Jianye)	Nick suggested: a. Build links between ISSMGE/TC304 and our own TC304 websites (Nick) b. Include a statement of why our activities are of interest/importance on the TC304 website – CV template has been distributed to members by KK Phoon
2. Benchmark “tutorial” examples (Jianye)	Timo is willing to contribute

2.5 TF5: Conference coordination - (Ken Ho, Hong Kong, China)

Actions	Responses
1. Special GEOSNet/TC304 session at 17th Southeast Asian Geotechnical Conference, May 10-13, 2010 (Jianye, KK)	
2. Collaborate with TC302 (Forensic Geotechnical Engineering) on International Symposium on Forensic Geotechnical Engineering, 14-15 Dec 2010, Indian Institute of Technology Bombay, Mumbai, India.	Limin will represent TC304.
3. Special TC304 session at 14th Asian Regional Conference, 23-27 May 2011 (Limin, Yu)	
4. Collaborate with TC303 (Coastal and River Disaster Mitigation and Rehabilitation) on 3rd International Conference on Geotechnical Engineering for Disaster Mitigation and Rehabilitation (GEDMAR 2011), Semarang, Indonesia, 4-6 May 2011	
5. Collaborate with GEOSNet on 3rd International Symposium on	Timo: Delft is organizing a session "reliability of

Geotechnical Safety and Risk (ISGSR 2011), Munich, 2011	flood defences" at the conference
6. Mini-symposium "Recent advances in geotechnical risk and reliability", 11th International Conference on Applications of Statistics and Probability in Soil and Structural Engineering (ICASP11), 1-4 August 2011, ETH Zurich, Switzerland.	
7. TC304 Workshop in conjunction with the 2nd National Symposium on risk management and Insurance Research in civil Engineering in Beijing, 2012 (Hongwei)	
8. ASCE Georisk 2011 "Risk assessment and management in geoengineering" Atlanta, GA, June 26 - 28, 2011	
9. TC304 Geotechnical symposium on "difficulties and challenges in landslide risk mitigation and management in hilly areas, particularly in Himalayas" India, 2012.	New conference proposed by Kishor
10. TC304 should try to coordinate events to reduce overlapping activities (Nick)	

2.6 TF6: Risk analysis and software – (Lars Olsson, Sweden)

Actionable items	Responses
1. Coordinate development of risk analysis procedures (Lars, Farrokh, Hongwei)	Pavlos can contribute software for statistical analysis especially with statistical factorial design and analysis
2. Develop framework for Risk Breakdown Structure (Lars)	
3. Compile list of software including a price estimate for TC304 website (Lars, Hongwei, Jianye)	Nick: @RISK for MonteCarlo simulation http://www.palisade.com/risk/

Other comments:

Nick:

All the committee members could write a short statement about their interests in respect of geotechnical risk. KK further provided a 1-page CV template. Please fill in details and send PDF to Jianye.

Robert:

Need more emphasis on how to implement (geotechnical) risk management in day-to-day operations cq projects.

Kishor:

Disaster knowledge networking:

- a. Networking of all the institutions/ individuals/their works/experience/ expertise/ involvement/position/etc.
- b. ISSMGE forum for disaster knowledge sharing would be a beginning to learn from each other's experiences and, may be, to work together.

4. Next TC304 meeting:

Special TC304 session at 14th Asian Regional Conference, 23–27 May 2011
(organizers: LM Zhang & Y Wang)

It is still possible for our TC304 members to submit papers to the special session. Please use the templates provided by Yu Wang to prepare your full paper and a one-page abstract and send them to Limin (cezhangl@ust.hk) or me (yuwang@cityu.edu.hk) by the end of November, as the formal deadline for paper submission is 30/09/2010. If any other TC304 member is interested to submit paper, please confirm with us by the end of this week and submit the full paper and one-page abstract to us by the end of this month.

5. Other matters: